

# *Taeniophyllum walkeri* B.Gray (Orchidaceae), a new species from north Queensland

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## Summary

*Taeniophyllum walkeri* B.Gray (Orchidaceae) a new species from north Queensland. *Austrobaileya* **10(1): 65–69**. *Taeniophyllum walkeri* B.Gray is described, illustrated and compared to related taxa. A key to the Australian mainland species is expanded to include the new species. A line drawing and photographs are provided. The species is restricted to the western side of the McIlwraith Range on Cape York Peninsula and is so far only known from three collections.

Key Words: Orchidaceae, *Taeniophyllum*, *Taeniophyllum walkeri*, Australia flora, Queensland flora, McIlwraith Range, new species, taxonomy.

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## Introduction

Since the recent publication of three new species of *Taeniophyllum* (Gray 2015), material of a new and distinctive species has been collected in far north Queensland from central Cape York on the western side of the McIlwraith Range to the north east of Coen. *Taeniophyllum walkeri* B.Gray is the second species in the section *Taeniophyllum* (synonym: section *Trachyrhachis* Schltr.) recorded for Australia. The other Australian species in this section, *T. epacridicola* B.Gray, is known from northern Cape York (Gray 2015).

This diminutive orchid was first brought to my attention by James Walker who found a single flowering specimen in April 2008 near to the Leo Creek Mine road in the western McIlwraith Range. This specimen is represented by a photograph only. Later a single flowering plant was collected by Andrew Ford at the same locality in July 2015. Four fruiting plants were located on one tree in the same general area in September 2016 by the author and Mark Nowochatko.

## Materials and methods

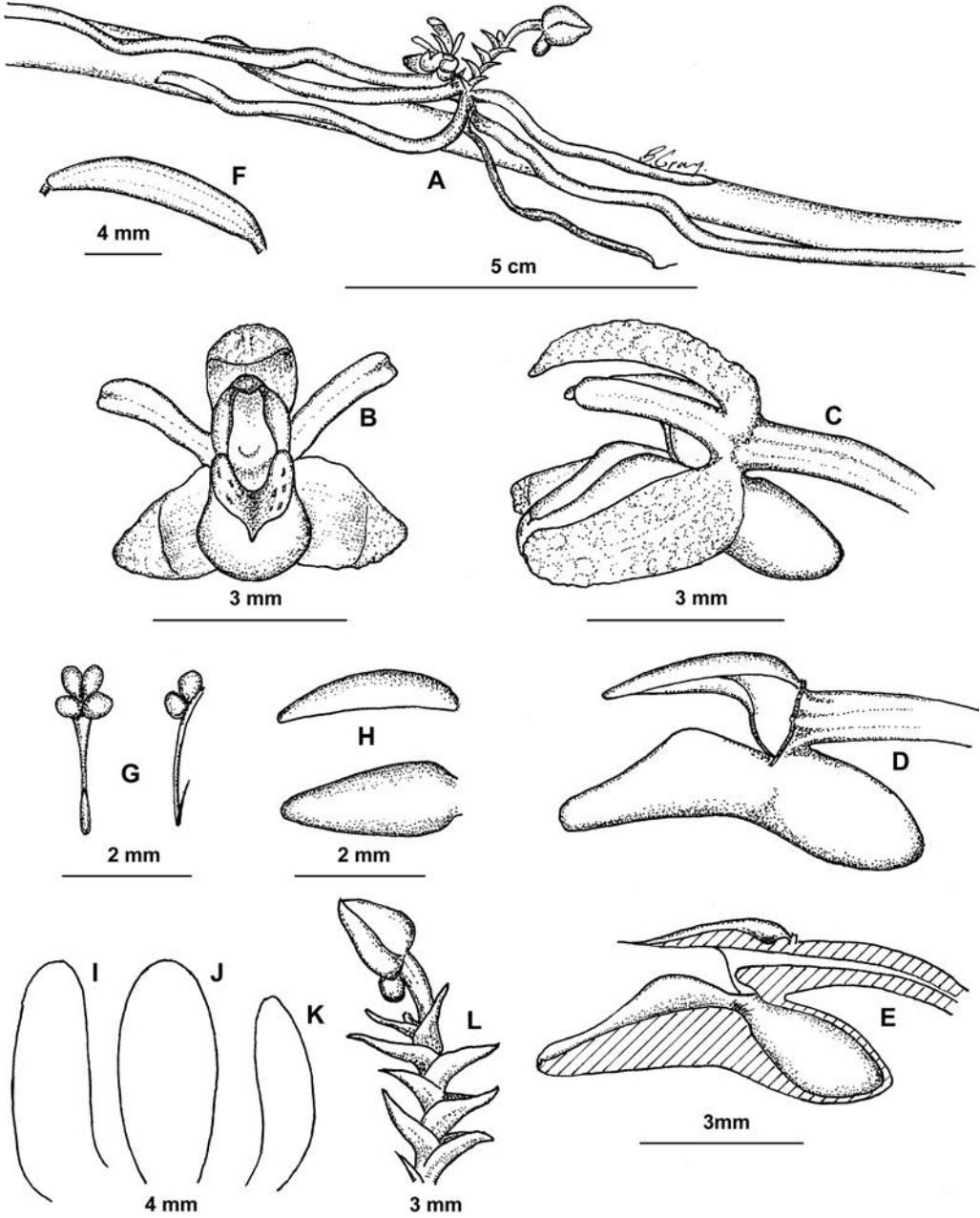
This study is based on fresh and spirit specimens collected from plants *in situ*. All

measurements for floral parts are from fresh material. An expanded key to the Australian mainland species is provided (*cf.* Gray 2015).

## Taxonomy

***Taeniophyllum walkeri* B.Gray sp.nov.** Similar to *T. oblongum* Schltr. from New Guinea, but differs in having much larger floral bracts, a cleft apex to the labellum (versus entire) and rugose outer surfaces to the sepals (versus smooth). **Typus:** Queensland. COOK DISTRICT: Old Leo Creek Mine road, western side of McIlwraith Range NE of Coen, 31 July 2015, A. Ford 6462 (holo: BRI).

**Plant** epiphytic. **Roots** 3–5(–6), round in cross section, attached to the host, 50–150 × 1.8–2.3 mm, green. **Inflorescences** usually one or two. **Peduncle** absent or up to 1 mm long. Rachis slightly zig-zag, 4–6 mm long. **Floral bracts** ovate acuminate, 3–4 mm long, glabrous. **Flowers** greenish yellow, *c.* 4.5 mm wide, labellum white with reddish markings. Sepals and petals spreading widely free to the base. **Dorsal sepal** broadly elliptic, obtuse at the apex, *c.* 4.7 × 1.7 mm, projecting forward over the column, concave but thickened near the apex, upper surface somewhat rugose and slightly keeled. **Lateral sepals** oblong, obtuse at the apex, *c.* 4.7 × 1.3 mm, thickened at the apex, outer surface somewhat rugose. **Petals** linear, *c.* 3.8 × 1 mm. **Labellum** thick and fleshy, *c.* 3.5 × 2 mm, channelled on the upper



**Fig. 1.** A. habit of mature flowering plant. B. face view of flower. C. lateral view of flower. D. lateral view of labellum and column. E. longitudinal section of labellum and column. F. fruit. G. pollinium. H. anther. I. lateral sepal. J. dorsal sepal. K. petal. L. inflorescence. All from *Ford 6462* (BRI). Scale as indicated. Del. B. Gray.

surface, side lobes highest towards the rear, apex cleft. **Spur** *c.* 2.2 × 1.6 mm in line with the labellum. **Column** projecting forward, beak like, *c.* 2.5 mm long, creamy yellow with red margins. **Anther cap** lanceolate, *c.* 2.5 × 1 mm. **Pollinia** 4 in unequal pairs. **Stype** slender *c.* 2 mm long. **Capsule** 12–14 × *c.* 3.5 mm. **Figs. 1–3.**

**Additional specimen examined:** Queensland. COOK DISTRICT: Leo Creek Mine road, McIlwraith Range, Sep 2016, Gray 9740 & Nowochatko (CNS).

**Distribution and habitat:** *Taeniophyllum walkeri* is endemic to central Cape York where it is known from a restricted area on the Leo Creek Mine road on the western side of the McIlwraith Range north east of Coen. All collections made have been growing on twigs and smaller branches of *Larsenaikia ochreatea* (F.Muell.) Tirveng. in relatively open areas near rainforest. *T. muelleri* Lindl. ex Benth. was a very common orchid on the same host tree.



**Fig. 2.** Mature flowering plant. Inflorescences showing open flower and a flower bud. (Ford 6462, BRI). Photo: B. Gray.

**Phenology:** Flowering collections were made in April and July, and a fruiting collection in September.

**Notes:** *Taeniophyllum walkeri* is closest to *T. oblongum* Schltr. from Papua New Guinea (Schlechter 1982) but a comparison of floral morphology with the description and line drawing of that species show the plants to be distinct from one another with the former

having much larger floral bracts, a cleft apex to the labellum and rugose outer surfaces to the sepals. Schlechter (1982) states that *T. oblongum* was rare and that he located only a single plant, despite a long stay in the Minjem Valley. The type specimen of *T. oblongum* was almost certainly destroyed in Berlin during World War 2.

There are also some similarities to *Taeniophyllum breviscapum* J.J.Sm. from New Guinea but that species differs in having verrucose, compared to smooth floral bracts.

**Etymology:** The specific epithet honours entomologist James Walker who discovered this species while doing field work in the area.

### Key to mainland Australian species of *Taeniophyllum*

- 1 Sepals and petals fused near the base forming a tube; flowers < 3 mm diameter . . . . . **2**
1. Sepals and petals free to the base not forming a tube; flowers > 3 mm diameter . . . . . **6**
- 2 Roots terete in cross section . . . . . **T. muelleri**
2. Roots triangular or flattened in cross section. . . . . **3**
- 3 Roots triangular in cross section (having a raised longitudinal ridge) . . . **T. triquetroradix**
3. Roots flat in cross section . . . . . **4**
- 4 Peduncle filiform . . . . . **5**
4. Peduncle not filiform, roots 2–3 mm broad; peduncle 2–3 long, floral bracts overlapping, hiding the rachis; flowers 4–5 mm long . . . . . **T. confertum**
- 5 Roots 1–1.5 mm broad; peduncle filiform, 12–15 mm long; rachis filiform; floral bracts small, alternating *c.* 0.5 mm apart, all in one plane; flowers *c.* 2.5 mm long . . . . . **T. explanatum**
5. Roots *c.* 1 mm or less broad; peduncle filiform, 2–5 mm long; rachis not filiform, fleshy, parallel sided, twice as wide as peduncle; floral bracts alternating < 0.5 mm apart; flowers < 2 mm long . . . . . **T. clementsii**
- 6 Peduncle, rachis and ovary sparsely covered with erect short-bristly hairs; flowers green, turning yellow with age . . . . . **T. lobatum**
6. Peduncle, rachis and ovary glabrous . . . . . **7**
- 7 Peduncle filiform, 20–50(–60) mm long; floral bracts overlapping; flower 7–11 mm wide; roots 1.5–2.5 mm broad, mostly hanging free from host, some appressed . . . . . **T. malianum**
7. Peduncle not filiform . . . . . **8**
- 8 Roots flat, 2–3.5(–4) mm broad, greyish green; peduncle and rachis reddish, zig-zag from the base, 8–10 mm long; floral bracts alternating 2–3 mm apart; flower 4.5–5 mm wide . . . . . **T. epacridicola**
8. Roots ± terete in cross section 1.8–2.3 mm diameter, green; peduncle 0–1 mm long, floral bracts overlapping hiding the rachis; flower *c.* 4.5 mm wide . . . . . **T. walkeri**



**Fig. 3.** Close-up of open flower (*Ford 6462*, BRI). Photo B. Gray.



**Fig. 4.** Fruiting plant (*Gray BG9740 & Nowochatko, CNS*). Photo: M. Nowochatko.

**Acknowledgements:** I would like to thank James Walker for bringing this plant to my attention and providing details of the collection site and host tree. I am indebted to Andrew Ford who went to considerable trouble to collect fertile material for the type specimen. Also, Mark Nowochatko is thanked for his assistance with the field work.

### References

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